

VOLUME 4 AIRCRAFT EQUIPMENT AND OPERATIONAL AUTHORIZATIONS**CHAPTER 14 GENERAL OPERATING AND FLIGHT RULES—MAINTENANCE ISSUES****Section 13 Parts Marking**

4-1631 PURPOSE. This section provides guidance to aviation safety inspectors (ASI) (maintenance and avionics) for advising operators and maintenance providers on the marking of in-service articles.

4-1632 BACKGROUND. The Federal Aviation Administration (FAA) has provided inconsistent information to maintenance providers about part-marking requirements associated with these in-service articles. Title 14 of the Code of Federal Regulations (14 CFR) part 45 generally contains these requirements, and they apply only to the design approval holder (DAH) or Production Approval Holder (PAH) at the time of production. If the FAA finds that an article is too small or otherwise impractical to mark during production, the maintenance provider must identify it in accordance with the provisions of part 45, § 45.15(d). The DAH or PAH must apply such markings. During the normal course of an article's operation and/or maintenance, some or all of this information may be missing or become illegible. In other cases, the person maintaining the article may be required to add or change the marking information. An example might be the identification of an incorporated Service Bulletin (SB) or Airworthiness Directives (AD).

4-1633 REGULATIONS, LEGAL RULINGS, AND GUIDANCE.

A. Regulations. With the exception of § 45.13(b) through (e) (which applies only to the removal, installation, changing, or placement of identification information for aircraft, aircraft engines, propellers, propellers hubs, and propeller blades), there are no regulations (other than life-limited parts) that deal directly with parts marking of in-service articles during maintenance or alteration.

B. Minor Deviations. While identification data for a component may be part of the aircraft's type design, the fact that it may be missing or illegible does not mean that the aircraft is not Airworthy when the article remains in service or installed. National Transportation Safety Board (NTSB) case law and FAA legal interpretations have concluded that not every minor deviation (e.g., dents, scratches, pinholes of corrosion, or missing screws), no matter how minor or where located on the aircraft, would dictate the conclusion, that the defect has impaired the aircraft's design, construction, or performance to a degree that the aircraft no longer conforms to its type design.

C. FAA Form 8130-3, Airworthiness Approval Tag. Existing FAA guidance for evaluating parts (e.g., the current edition of Advisory Circular (AC) 20-154, Guide for Developing a Receiving Inspection System for Aircraft Parts and Material) recognizes that article markings are only one of many factors that an inspector may use to establish the airworthiness of parts for installation on type-certificated (TC) products. The current edition of FAA Order 8130.21, Procedures for Completion and Use of the Authorized Release Certificate, FAA Form 8130-3, Airworthiness Approval Tag, states that "if during maintenance the part number is removed or obscured, the persons performing the maintenance must document the part

number and, if applicable, serial number, total time and cycles, heat code (if applicable), and any and all part markings on maintenance documents before performing the work. The article information must be reapplied after maintenance per acceptable practices. Form 8130-3, when completed in accordance with FAA Order 8130.21, may be considered the article's identification in order to identify the article."

D. Received Marked Articles. When a received article is marked with dual part numbers or multiple part numbers, the article will be processed following the guidance provided in Order 8130.21.

E. Other Methods of Determining Airworthiness. This practical approach to airworthiness means that conformity to type design of in-service aircraft and other articles is evaluated under 14 CFR part 43 and/or the maintenance and inspection portions of the applicable operating rules. The operator or maintenance provider must employ other suitable methods for determining airworthiness if the identification information is missing or illegible. This is true regardless of the identification method used at the time of manufacture.

F. Consistently Missing Markings. In accordance with § 45.15, articles are required to have permanent and legible markings, so part markings should not be routinely "missing." ASIs who become aware of specific Technical Standard Order (TSO) articles or Parts Manufacturer Approval (PMA) articles that consistently have missing markings should forward that information to the PAH's Manufacturing Inspection District Office (MIDO) and copy the Aircraft Engineering Division (AIR-100). This information can help the PAH's MIDO resolve any deficiencies in either the TSO/PMA standard or the TSO/PMA holder's design or manufacturing processes for part-marking permanency.

G. Owner Produced Parts and Parts Fabricated by Maintenance Providers.

1) Maintenance providers, including owners and operators, fabricating aircraft parts to be consumed during maintenance and alteration should clearly identify those articles with an additional permanent and legible marking. The marking should include the following:

- The name, trademark, or symbol of the FAA certificate holder (fabricator) under whose control the fabrication occurred;
- A unique part number that clearly distinguishes the fabricated part; and
- The original manufacturer's part number, if removed as a result of the fabrication.

2) Maintenance providers should mark critical parts in accordance with § 45.15(c). This provides traceability for subsequent operators and maintenance providers to the source of the fabricated part.

NOTE: In cases where it is impractical to mark a fabricated part, or where doing so would compromise airworthiness, the marking information should be included in the maintenance records for the part.

NOTE: Certificate holders who desire to sell their fabricated parts separately (i.e., outside the course of performing maintenance or an alteration) must obtain a PMA. Refer to 14 CFR part 21.

3) Due to the limited duration of maintenance record retention requirements, the FAA encourages maintenance providers that independently develop major repairs and major alterations (i.e., those not contained in the manufacturer's maintenance manual, instructions for continued airworthiness (ICA), or other manufacturer's service information) to provide a unique marking such as the name, trademark, designator, or symbol of the FAA certificate holder to parts that have undergone this work. This information would provide subsequent maintenance providers with an indication that the part may require special handling to ensure continued airworthiness (such as the use of inspection criteria developed by the person who performed the major repair or major alteration).

4-1634 GUIDANCE.

A. Operations and Maintenance. The following guidance for ASIs concerns the absence of identification data on a part (including but not limited to PAH, PMA, and TSO articles) and the subsequent remarking of these components.

1) Part-marking is not essential for determining the continued airworthiness of an in-service article, provided the operator and/or its maintenance provider can determine that it conforms to its approved design and is in condition for safe operation.

2) Except for § 45.13(b) through (e), there are no regulations (other than life-limited parts) requiring or prohibiting the remarking of an article received with a missing or illegible identification plate, label, tag, or other identifying marks.

3) Except for § 45.13 (b) through (e), there are no regulations (other than life-limited parts) requiring or prohibiting a person performing maintenance on the article from adding identification information.

B. Other Methods for Determining Airworthiness/Continuity of Original Markings.

1) When identification data is no longer visible, the operator or maintenance provider will need to determine that the article was produced in accordance with part 21 and may need to investigate further to determine the article's identity and airworthiness. Frequently, a determination for airworthiness can be established by other means, including but not limited to:

- Visual and other kinds of inspections,
- Operational or functional checks,
- Reference to an Illustrated Parts Catalogue (IPC) and/or component maintenance manual (CMM), or
- Knowledge that the article received an appropriate incoming inspection and remains within the control of the same operator or maintenance provider.

2) For example, an air carrier may employ a procedure for determining that an in-service article is in an Airworthy condition even though the identification data required at the

time of manufacture is no longer visible. In such cases, the operator could continue the aircraft in service with the article installed until it can reapply the identification data, such as during a scheduled check. When an air carrier or maintenance provider reidentifies an article, it must determine that the replacement information is consistent with the original marking.

C. Removal and Replacement of Information. Even if not prohibited by § 45.13(b) through (e), it is generally inadvisable to remove original identification even if it is illegible. Instead, add additional information, as further described below.

4-1635 ACTION. For questions concerning replacing identification information on articles not covered by § 45.13(b) through (e), the ASI should provide the following information to:

A. Air Carriers.

- 1) If an air carrier is continuing in service or maintaining the article, the individual performing the maintenance must follow the operator's maintenance program and the applicable sections of its manual.
- 2) Encourage air carriers to query design and PAH procedures regarding reidentification of articles and/or developing of replacement part-marking procedures to facilitate the proper identification of articles eligible to continue in service.

B. Other Operators (Including but not limited to General Aviation (GA)).

- 1) Operators that do not have their own FAA-approved maintenance programs may still determine that an article is in an Airworthy condition in the absence of identification data.
- 2) If the operator wishes to reidentify articles or add additional information to its parts, it should follow the manufacturer's maintenance information or other FAA-approved procedures for reidentification or adding information to an article.

C. Maintenance Providers.

- 1) Maintenance providers performing work for an air carrier or commercial operator under 14 CFR part 145, § 145.205 must follow the operator's article identification procedures. If there are no instructions, the maintenance provider should request written guidance from the operator. The operator may authorize the repair station to follow the repair station's own identification procedure when authorized by the operator's approved procedures manual.
- 2) Encourage the operator to contact the DAH or PAH to obtain reidentification information. Unless contrary to § 145.205, obtaining a new identification plate, label, or tag from the manufacturer and following its instructions (e.g., CMM/SB) is an acceptable method for remarking/reidentifying the article.
- 3) Operators may develop their own written procedures for evaluating identification information and determining whether and how to reapply illegible or missing data or add identification information. This should include:

- A receiving inspection that notes that the identification marking is missing and/or illegible;
- The method for ensuring the authenticity of the article (part);
- The method for applying the reidentification or additional information in a manner that will not impact airworthiness; and
- The method the maintenance provider uses to document its identification information.

NOTE: When an air carrier, other operator, or maintenance provider reidentifies an article, the maintenance record entry for that article should reflect this action.

4-1636 REFERENCES, FORMS, AND JOB AIDS.

A. References (current editions):

- AC 20-62, Eligibility, Quality, and Identification of Aeronautical Replacement Parts;
- AC 20-154, Guide for Developing a Receiving Inspection System for Aircraft Parts and Material;
- AC 21-23, Airworthiness Certification of Civil Aircraft, Engine, Propellers, and Related Products Imported to the United States;
- AC 21-45, Commercial Parts;
- AC 21-50, Installation of TSOA Articles and LODA Appliances;
- AC 43-18, Fabrication of Aircraft Parts by Maintenance Personnel;
- AC 43.13-1, Acceptable Methods, Techniques, and Practices—Aircraft Inspection and Repair;
- AC 43-213, Parts Marking Identification;
- Order 8110.42, Parts Manufacturer Approval Procedures;
- Order 8130.2, Airworthiness Certification of Aircraft and Related Products;
- Order 8130.21, Procedures for Completion and Use of the Authorized Release Certificate, FAA Form 8130-3, Airworthiness Approval Tag; and
- Order 8150.1, Technical Standard Order Program Certificate.

B. Forms. None.

C. Job Aids. None.

RESERVED. Paragraphs 4-1637 through 4-1640.